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PLANNING AND PROGRAMMING OF JOINT SECTOR PROJECT

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I,1. The subject of this report are the problems of methodology related to the drafting of an economic plan according to the different branches of economy, under conditions of highest coordination among the branches so as to ensure the necessary unity of the system of planning indices as a whole. These remarks on methodology have been drawn from practical work on setting up long-term plans in the People's Republic of Bulgaria, What is typical of this project is the fact that it refers to a small country of a medium level of economic development. In addition to that, the problem tackled by the plan is to attain high rates of economic development.

I,2. Initial prerequisites:

a/ Opportunities of uninterrupted and rapid intensification of the international division of labour and, consequently, of reaching the highest specialization in the field of national economy.

b/ A system of foreign trade prices on which trade among the socialist countries is based. This system reflects the costs of manufacture in a correct manner.

I,3 Under these prerequisites, the immediate technical and economic purpose of the plan is to make available and to use to the maximum degree all natural and labour resources of the country at such rates of development as will secure the necessary accumulations of capital investments necessary for this development.

II. The drafting of the plan passes through different stages and through a number of variants.

During the first stage of the drafting of the plan, the principal task is to prepare the initial materials and to carry out the initial studies. Work at this stage proceeds along a number of basic lines simultaneously. These lines will be discussed later on. The materials refer to the individual economic branches and to the trends of the economic development as a whole, with due regard to the specific conditions prevailing in the respective branches and fields of activity.

This stage does not yet include the task of calculating the relations among the separate branches, nor does it involve calculating the dependencies among the indices. On the contrary, the task is to prepare material for the following stages at which the initial indices are being determined on the basis of their mutual relations.

II, 1a. Characteristics of the natural resources of minerals and drafting the first variant of the mining industry.

Most significant at this stage is the assessment of the expected reserves of mineral raw materials. Use is made of the established scientific data about the geology of the country. The organization of the work to be done is based on setting up an extensive system of commissions composed of highly qualified geologists from the country. These commissions study the existing materials on the geology of the country and draft a prognosis of the geological reserves which have a bearing on metallurgy, chemistry, manufacture of building materials and power production.

The materials related to the water resources of the country are also summed up and arranged systematically in connection with the prospects of developing hydro-power in close relation with the other aspects of the water problem.

On the basis of the above data, an operative group of experts drafts a programme of referring the reserves from a lower to a higher category. The following documents are drafted:

- A balance of the reserves of mineral raw materials per categories. One of the items of this balance is tne expected yield of minerals referred to years of the corresponding period. One of the initial items in drafting the balance and in determining the expected yields is the necessity of ensuring sufficient reserves for the operation of a particular enterprise after this period.
- A characteristics of the geological condition determining the economic parameters of the expanding yields. This is done with the precision of the geological conditions which is possible at this stage.
- On the basis of existing machinery and equipment and of the work done in the field of geological studies and mining, as well as on the basis of the apparent trends in their development, a determination is made of the preliminary indices of the capital investments necessary, of the necessary machines and equipment, pertinent labour productivity and number of workers, composition according to qualifications, etc.

II, 1b. A second parallel line of work is directed towards studying the natural resources in rural economy. The tasks in this field are as follows:

- Determining the possible expansion of agricultural areas. The first initial indices about forthcoming work on reclaiming and irrigating land are drafted in this connexion, due provision being made for the new machines and equipment necessary, for capitals, trained personnel, etc.
- Groups composed of highly qualified experts in their respective fields study and sum up the entire existing material on the conditions of soil and climate in the different regions of the country.
- Two trends of further work are determined on the basis of the material collected: optimum structure of agricultural crops with a view to the specific natural conditions and the possible increase of yields per unit area on the basis of specific natural conditions and following operative groups of specialists prepare data about the dynamics of the areas under cultivation with regard to crops cultivated, as well as the dynamics of average yields.
- In this connection, the following stages involve determining the equipment necessary, capital investments, introducing machinery in agriculture, the dynamics of the rates of introducing chemical fertilizers, as well as the indices referring to the development of the systems of irrigation.

In the course of the implementation of the plan, the entire system of data will continue developing towards perfection by the application of the means of linear programming.

II, 1c. A third line of work in connexion with the natural resources and with the mining industry refers to forestry.

The problem to be solved in this field is to determine the areas subject to complete afforestation, to make a preliminary assessment of the reserves of wood and to determine the rates of their exploitation.

Based on this material, an elaboration is made of the resource side of the preliminary balance of the wood, according to categories and sizes, The elaboration continues in the field of effectively utilizing this wood in accordance with the achievements of chemistry and of the technology in woodworking.

Parallel with the initial data in this field, elaboration is made of the preliminary programmes related to equipment, capital investments, labour force needed, etc.

II, 1d. In this manner it is possible to throw light on the prospects of the growth of the resources of mining industry, power output, agriculture and forestry, as well as on the facts and conditions related to their progressing utilization. The materials accumulated in this manner serve as a basis of further work related to the manufacturing industry.

II, 2a. Parallel with the entire work on studying natural resources and on the conditions of their utilization, a second basic line of preliminary work is connected with the problem of the balance of the labour force.

The initial data of this balance are the demographic studies and calculations made. The immediate inference from the demographic calculations is to determine that section of the population which is capable of employment. There are two aspects to this problem: the first one is to determine the normative fund of the population capable of employment which, according to the practice adopted, includes the population between 16 and 55 years of age for women and between 16 and 60 years of age for men. The second one is to determine the remaining fund of working population which includes people with preserved capacities for work above these age limits.

II, 2b. The number of people capable of employment does not yet determine the effective number of the population which will be actively employed. Under conditions prevalent in our country, the difference is in the first place dependent on the number of housewives who are not regarded as active population. Reducing their number in perspective is determined at the preliminary stage of the work on the basis of extrapolation of the trends which have been active in the past, the terminal point being a great reduction of the non-active section of the population. The basis of this trend is taking over of the cares related to running a household on the part of publicly organized enterprises, as well as modernization of work in the households.

The composition of the non-active population capable of employment includes the students who are in the above age brackets. At the stage of preliminary drafting, their number is determined again on the basis of extrapolation and of considerations about the necessary improvement in their qualifications.

II, 2c. The active population falls into two categories: people engaged in the field of material production /industry, agriculture, transport, building and trade/ and people engaged in the field of activities, administration, etc./. The preliminary stage takes stock of the trend towards an absolute increase in the number of people engaged in the sphere of services.

II, 2d. Parallel with that a determination is made of the preliminary indices related to a gradual reduction of the working hours per week per employed person.

Following along this line it is possible to obtain the effective fund of working hours which are at the disposal of the nations for the needs of material production at the individual stages of the envisaged period.

It becomes clear from the above that these data are of a preliminary character. Further on, by means of iteration, they are being specified with the elaboration of all remaining indices of the plan.

II, 3. A third basic line of work at this same preliminary stages comes to explain the prospects of the needs and of the growth of consumption. The task at this stage is to prepare data which should be rendered more specific during the following stages. Commissions of experts are set up to establish the most probable rates of consumption on a scientific basis.

II, 3a. A number of institutes at the Academy of Sciences, helped by experts assigned to them for this purpose, establish rational norms of the composition of food, from a medical point of view. The problem at this stage is to determine the terminal point which is the purpose of the development of national economy, ensuing in the first place from considerations of medical expediency. A detailed treatment of this problem, in connexion with the resources of the country's economy, is a task to be settled during the following stages. At this very stage, however, the treatment of the problem includes, in addition to medical considerations, provisions about possible changes in the tastes and habits of the population, as is the case with the preliminary indices about the possible consumption of alcoholic drinks, tobacco, etc.

II, 3b. Working in an analogous manner, special commissions prepare norms reflecting the most probable development of consumption related to textiles and shoes.

II, 3c. Other groups of experts work on the preliminary data related to the policy to be followed on the housing problem, living conditions, cultural necessities, etc.

II, 4. At this stage of the work on the plan it is necessary to adopt yet another preliminary index which is subject to correction further on. This preliminary index is the extrapolated growth of the volume of the aggregate social product and of the national income.

On the basis of these indices it is possible to calculate the preliminary volume of capital investments which will be available to the country at each separate stage of its development. This preliminary calculation calls for extrapolating the structure and trend in the distribution of national income between the fund of consumption and the fund of accumulation, in the composition of accumulation, between the growth of capital investment and the growth of turnover funds, etc., and, in the composition of consumption, among its bigger groups.

II, 5. These preliminary studies related to resources and consumption lead to the accumulation of abundant material which can be used in drafting the plan.

III, 1. The task of the following stage which marks the beginning of drafting the variant of the plan is to determine the structure and rates of development of the manufacturing industry, as well as to connect all indices in one system by calculating the relations among the branches.

III, 2. The following conditions of principle are taken into consideration in determining the indices typical of the development of the manufacturing industry under economic conditions of Bulgaria.

- To introduce serial methods in industry to an optimum degree, in accordance with the existing technological level and particularly in accordance with its development in perspective.

- Full utilization of the fund of working hours available to society in the different periods for the needs of the manufacturing industry, after a part of the total fund has already been engaged in the sphere of services, on the one hand, and in the field of the mining industry, on the other.

The problems which ensue from the ratio between the natural resources, on the one hand, and the labour resources, on the other, come up at this stage. The drafting of the plan takes stock of these problems in determining general policies in the field of the manufacturing branches, particularly the extent to which the country should specialize in the branches with a relatively small share of raw materials and a relatively big share of processing and manufacture, as well as the extent to which specialization can be undertaken in the branches of the manufacturing industry possessing an inverse ratio.

The consideration underlying the selection of the branches of the manufacturing industry in connexion with the above data is for the transport of raw materials and finished goods to the place of consumption to reach an economically justified volume.

All these considerations are sufficient as a basis of drafting a plan about the optimum form and degree of specialization in the manufacturing industry.

IV, 1. After the completion of the preliminary stage and of the calculations related to the manufacturing industry, the organs of planning in the country possess all necessary initial data to undertake an all-round calculation of the relations among the branches which establish the correlation between needs and resources. The relations among the branches are calculated in our country without the aid of electronic machinery. Under conditions of ordinary mechanical and electrical machines, as prevalent in our country, four to five months are necessary to work out the first variant of a combined national economic plan with calculated relations among the branches.

IV, 2. Calculating the relations among the branches is done on the basis of technical coefficients which expressed the prospects of technical development, inasmuch as they can be assessed and forecast at this stage.

Technically, the relations among the branches are established by means of over 500 balances for the separate major types of produce or groups of products. Based on these elementary balances expressing the relation among the branches in a most direct manner, a system of generalizing balances is set up in terms of indices of value. Both balances go in to compose the system of the entire balance of national economy. In the course of the work of preparing these balances, the indices adopted as preliminary models during the first stage are gradually rendered more precise and specific in connection with their dependence on the other indices.

IV, 3a. There are two aspects of linking the branches by means of the balances of the basic types of products. The first aspect embraces the relations among the branches within the framework of a period of one year. Their basis are the objects of labour such as raw materials, semi-finished goods and materials.

IV, 3b. Another aspect of coordination by means of balances refers to the relations among the branches on the basis of the means of labour. In view of the nature of the object, the task here is to coordinate the branches within the framework of periods longer than a year, in other words, to coordinate the different stages of the period in perspective among themselves.

An instrument of this coordination in dynamics are the balances of the machines and the plan of capital investments.

The basis of the plan referring to capital investments are the technical coefficients of the productive capacities of the respective machines and equipment, as well as the indices referring to the growth of labour productivity.

The technical coefficients make it possible to establish the relation between capital investments and the industrial programme, while the indices of labour productivity help to establish the link between these two documents of the plan with the plan related to labour resources, as well as to correct the initially accepted indices and hypotheses.

IV, 3c. The growth of production, already coordinated with capital investments and with the expense of materials along the relations among the branches leads, in an inductive manner, to the index of the dynamics of the national income.

IV, 3d. Comparing the dynamics of the national income, the investments already calculated, and the calculated volumes of consumer goods makes it possible to determine the proportion between accumulation and consumption which was accepted as a hypothesis at the initial stage of the work. If the proportion, as calculated, between consumption and accumulation is assessed as rather strenuous, in the following variant-model of the plan it is necessary to provide for a reduction of the capital investments and for an eventual delay in the rates of development. In this manner, it is possible to undertake an empirical check of the preliminary hypothesis about the total rates of growth.

IV, 4. In drafting the system of balances, the line of fully utilizing the specific natural conditions and of introducing the optimum degree of serial production, a line adopted as early as during the preparatory operations, leads in every individual balance to raising the relative share of that section of the final production which constitutes a part of the export and import. In this connexion, when the first model-variant is ready, we already have a model related to the development of export and import which will serve as a basis of coordination on an international scale. The existing trend of specialization is expressed in the more rapid growth of the envisaged trade, compared with national income. In this manner, the initial prerequisites for the intensified international division of labour obtain, at the first variant-model, the form of a concretely calculated necessity of intensifying the integration in the socialist economic system of which our country is a composite unit. The theoretical prerequisite proved to be practically demonstrated in our experiment. This tendency constitutes, in the instance of a small or medium-sized country, a general condition determining its possibility of utilizing its resources and of ensuring its development.

V, 1. The drafting of the first variant-model is followed by stages of specifying and improvement by means of a number of subsequent variants. In the case of each new variant, the data of the preceding one furnishes ample opportunities of precisely specifying the data in the next variant. The number of these variants ranges between five and six in our country, their terms being shorter than the ones offered by the existing methods of computation.

V,2. It must be emphasized that the already determined variant on a hifher basis possess indices which express results of prognoses reffering to certain elementary parameters. The authenticity of the entire work depends on the precision of the prognosis. The prognosis refers, as we said in the beginning, to geological reserves, to the development of the elementsry norms of consumption. as well as to

elementary norms expressing the development of technology, Of course, efforts are made during the very drafting of the plan for the prognoses of all these elementary parameters to be as precise and possible.

V,3. Despite all that, however, it cannot be expected that these prognoses can be perfectly precise, particularly for a twenty-year period. That is why the very concept of perspective planning needs clarification. The task of a perspective plan, particularly of a long-term general plan, is not to elaborate on the indices, to fix them as a dogma, so that they shall remain unchanged during the entire period of their implementation, and it is not to channel life within a pre-cast framework. The long-term plans are steadily undergoing improvements in the course of development, on the basis of their partial fulfilment, on the basis of new technological and scientific discoveries and on the basis of prognoses which become more precise.

V,4. In this sense, the practical use of the long-term plans consists in correctly determining the trends of development, the initial positions and the rates to be followed, in correct sequence of building the big industrial enterprises in the country and in strict coordination of all these quantities.

What is more, a long-term plan, conceived precisely in this sense, is a sound foundation for taking stock of the changes which will be introduced by life under conditions of coordination, and not in an isolated and detached manner. The very coordination of the development, - the principal purpose of the plan is, as we can see, a dynamic one and not a sttatic one at all.

All this makes it possible for the long-term plan to be operative as a sufficiently effective instrument for an organized and expedient utilization of the forces and capacities of the nation to attain rapid economic progress.

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